

IN THE CLAIMS

All currently pending claims have been reproduced below.

1. (Currently Amended) A pulse oximeter apparatus comprising:
a pulse oximeter sensor having an output for providing a signal corresponding to a measured physiological characteristic; and
a memory associated with the sensor and located external to a monitor ~~which receives~~ configured to receive the sensor signal, ~~said~~ the memory containing data relating to ~~said~~ the sensor and containing a digital signature.
2. (Currently Amended) The apparatus of claim 1 wherein ~~said~~ the signature is signed using a private key, ~~said~~ the signature being verifiable with a public key in the monitor.
3. (Currently Amended) The apparatus of claim 1 wherein ~~said~~ the signature ~~[[is]]~~ comprises a Rabin-Williams signature, an RSA signature, a Diffie-Hellman signature, an El Gamal signature, or an elliptic curve signature.
4. (Currently Amended) The apparatus of claim 1 wherein at least a first portion of ~~said~~ the data is contained within said digital signature.

5. (Currently Amended) A method for creating a digital signature in a pulse oximeter apparatus including a memory associated with a pulse oximeter sensor having an output ~~for providing~~ configured to provide a signal corresponding to a measured physiological characteristic, ~~said~~ the method comprising:

signing at least a portion of ~~said~~ data relating to ~~said~~ the sensor to create a digital signature;

storing ~~said~~ the digital signature in ~~said~~ the memory; and

storing data relating to ~~said~~ the sensor in ~~said~~ the memory.

6. (Currently Amended) The method of claim 5 ~~further~~ comprising:

creating a public key and private key pair;

imbedding ~~said~~ the public key in a memory in a sensor reader; and

using ~~said~~ the private key to sign ~~said~~ the data and create ~~said~~ the digital signature.

7. (Currently Amended) The method of claim 5 wherein ~~said~~ the digital signature ~~[[is]]~~ comprises a Rabin-Williams signature, an RSA signature, a Diffie-Hellman signature, an El Gamal signature, or an elliptic curve signature.

8. (Currently Amended) The method of claim 5 ~~further~~ comprising imbedding at least a portion of ~~said~~ the data in ~~said~~ the digital signature.

9. (Currently Amended) A pulse oximeter sensor reader comprising:

- a housing;
- a sensor input for receiving a signal from a pulse oximeter sensor corresponding to a measured physiological characteristic;
- a sensor processing circuit coupled to ~~said~~ the sensor input;
- a memory input for receiving digital data stored in a memory associated with ~~said~~ the sensor, ~~said~~ the digital data including a digital signature;
- a first sensor reader memory coupled to ~~said~~ the memory input for storing ~~said~~ the digital data;
- a second sensor reader memory storing a signature verification key;
- a third sensor reader memory storing a program for verifying the digital signature of ~~said~~ the digital data using ~~said~~ the signature verification key; and
- a transfer circuit for providing at least a portion of ~~said~~ the digital data to ~~said~~ the sensor processing circuit.

10. (Currently Amended) The sensor reader of claim 9 wherein ~~said~~ the first and second sensor reader memories are different portions of the same physical memory.

11. (Currently Amended) The sensor reader of claim 9 wherein ~~said~~ the sensor processing circuit comprises a microprocessor.

12. (Currently Amended) The sensor reader of claim 9 wherein ~~said~~ the signature verification key is a public key of a private key and public key pair.

13. (Currently Amended) The sensor reader of claim 9 wherein ~~said~~ the signature is a Rabin-Williams signature.

14. (Currently Amended) The sensor reader of claim 9 wherein at least a portion of ~~said~~ the digital data is imbedded in ~~said~~ the digital signature.

15. (Currently Amended) A pulse oximeter system comprising:

(a) a pulse oximeter sensor apparatus ~~including~~ comprising

a sensor, ~~said sensor~~ having an output ~~for providing~~ configured to provide a signal corresponding to a measured physiological characteristic, and

a sensor memory associated with ~~said~~ the sensor, ~~said~~ the sensor memory having digital data relating to ~~said~~ the sensor and having a digital signature, ~~said~~ the digital signature being a signature of at least a portion of ~~said~~ the data; and

(b) a pulse oximeter sensor reader ~~including~~ comprising

a sensor reader housing;

a sensor input ~~for receiving said~~ adapted to receive the signal from ~~said~~ the sensor corresponding to a measured physiological characteristic;

a sensor processing circuit coupled to ~~said~~ the sensor input;

a memory input ~~for receiving said~~ adapted to receive the digital data from ~~said~~ the sensor memory;

a first sensor reader memory coupled to ~~said~~ the memory input ~~for storing~~ to store said the digital data;

a second sensor reader memory storing a signature verification key; and

a third sensor reader memory storing a program ~~for verifying said~~ adapted to verify digital signature using ~~said~~ the signature verification key.

16. (Currently Amended) The apparatus of claim 1 wherein ~~said~~ the memory associated with ~~said~~ the sensor is mounted in an adapter coupled between ~~said~~ the sensor and ~~said~~ the monitor.

17. (Currently Amended) The method of claim 5 wherein ~~said~~ the memory associated with ~~said~~ the sensor is mounted in an adapter coupled between ~~said~~ the sensor and a monitor.

18. (Currently Amended) The system of claim 15 wherein ~~said~~ the memory associated with ~~said~~ the sensor is mounted in an adapter coupled between ~~said~~ the sensor and ~~said~~ the sensor reader.

19. (Currently Amended) A pulse oximeter apparatus comprising:
a sensor having an output ~~for providing~~ configured to provide a sensor signal
corresponding to a measured physiological characteristic; and
an adapter coupled to ~~said~~ the sensor, ~~said~~ the adapter including a memory, ~~said~~
the memory containing sensor data and containing a digital signature.

20. (Currently Amended) The apparatus of claim 19 ~~further~~ comprising:
an internal monitor in ~~said~~ the adapter ~~for providing~~ configured to provide an
output signal corresponding to ~~said~~ the physiological characteristic; and
a conditioning circuit ~~for modifying said~~ configured to modify the sensor signal to
produce a synthetic sensor signal, such that a second[[,]] external monitor using ~~said~~ the
synthetic sensor signal ~~will produces~~ an output corresponding to ~~said~~ the output signal of ~~said~~ the
internal monitor.